

**Claims:**

1. A method of installing a liner in a drilled bore below a section of bore previously lined with casing, the method comprising the steps of:
  - running a length of liner into the bore such that at least an upper end, of the liner is positioned in overlapping relation with at least a lower end of the casing; and
  - plastically deforming a portion of the liner such that an external face of said portion forms an interference fit with an internal face of a portion of the casing to provide at least one of hanging support for the liner and a fluid-tight seal between the liner and casing.
2. The method of claim 1, wherein said portion of liner is deformed by rolling expansion, that is an expander member is rotated within the liner with a face in rolling contact with an internal face of said portion, to cause compressive plastic deformation of the liner and a localised reduction in wall thickness resulting in a subsequent increase in liner diameter.
3. The method of claim 1, wherein said deformed portion of the liner is annular.
4. The method of claim 1, wherein the portion of liner is deformed to create a pressure-tight seal between the liner and casing.
5. The method of claim 4, wherein the seal formed is a metal-to-metal seal.
6. The method of claim 4, further comprising providing the portion of liner with a band of relatively soft metal which is plastically deformed during the expansion of the liner portion.
7. The method of claim 1, wherein the portion of liner is deformed to extend into a preformed profile in the casing.

PATENT

Attorney Docket No.: WEAT/0024.C1

Express Mail No.: EV335469424US

8. The method of claim 7, further comprising deforming the casing to define the profile prior to running the liner into the bore.

9. The method of claim 7, further comprising deforming the portion of casing together with the liner.

10. The method of claim 1, wherein the liner is deformed at two or more axially spaced locations.

11. The method of claim 1, wherein the liner is initially secured relative to the casing by deforming the liner by radially extending circumferentially spaced areas of the liner to form corresponding areas of interference fit between the liner and the casing.

12. The method of claim 11, wherein said areas are then extended circumferentially to form annular areas of interference fit between the liner and casing.

13. The method of claim 1, further comprising the step of cementing the liner in the bore.

14. The method of claim 13, wherein cementing is achieved by pumping cement from surface to the lower end of the end of the liner through a combined running and cementing string and tool, directing the cement into the annulus between the liner end the bore wall and displacing fluid from the annulus, to substantially fill the annulus with cement.

15. The method of claim 13, wherein the portion of the liner is expanded once the cement is in place in the annulus.

16. The method of claim 15, wherein the liner is rotated as the cement is passed into the annulus.

PATENT

Attorney Docket No.: WEAT/0024.C1  
Express Mail No.: EV335469424US

17. The method of claim 1, wherein the liner is run into the bore on a running tool carrying an expander including a body and at least one radially extendable member mounted thereon, the running tool being rotatable to move the member around the portion of the liner to create the desired deformed portion.

18. A method of securing a liner in a drilled bore to a section of previously fitted casing, the method comprising the step of deforming a portion of the liner by compressive plastic deformation to produce a localised reduction in wall thickness and subsequent increase in diameter such that an external face of said portion forms an interference fit with an internal face of a portion of the casing to provide at least one of hanging support for the liner and a fluid-tight seal between the liner and casing.

19. The method of claim 18, wherein said portion of liner is deformed by rolling expansion.

20. A liner running and setting tool comprising: a body for mounting on a running string and for location within a section of liner to be positioned within a section of casing; and a radially extendable expander member mounted on the body, the member being movable to plastically deform a portion of the liner section such that an external face of the portion forms an interference fit with an internal face of a portion of the casing section to provide at least one of hanging support for the liner and a fluid-tight seal between the liner and casing.